

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN**

Cequent Performance
Products, Inc.,

Plaintiff,

v.

Hopkins Manufacturing
Corporation et al.,

Defendants.

Case No.

2:13-cv-15293-MFL-PJK

Judge Matthew F. Leitman

Magistrate Judge
Paul J. Komives

Cequent's Opening Claim Construction Brief

[PUBLIC VERSION]

**CONFIDENTIAL PORTIONS HAVE
BEEN REDACTED AND FILED UNDER SEAL**

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I. Introduction

Hopkins' brake controllers infringe each of Cequent's three patents. Without a decent non-infringement position, Hopkins put all of its eggs in the invalidation basket and petitioned the USPTO to review the validity of each Cequent patent. The USPTO, however, rejected Hopkins' invalidity theories completely for two patents and on many of the claims in the third patent. Having gambled away its invalidity defenses, Hopkins attempts to misuse the *Markman* process to try and narrowly rewrite Cequent's patents to avoid infringement.

Hopkins' revisionist efforts, however, cannot succeed because its proposed constructions violate basic tenets of claim construction law. Claim construction must give claim terms their ordinary meanings. Yet Hopkins does not propose ordinary meanings, but instead seeks to wrongly narrow claim scope that would, if adopted, import numerous limitations into the claims that are not actually there. Because importing limitations is a "cardinal sin" of claim construction, Hopkins constructions are legally erroneous. This Court should reject them accordingly, and either not formally construe the terms or adopt Cequent's alternative proposals that follow the law to give the terms their ordinary and customary meaning.

II. Background of Dispute

This case involves electronic trailer brake controllers: devices that activate the brakes on a trailer when the towing vehicle, such as a pick-up truck, is braking.

For decades, Cequent's TEKONSHA[®] brake controllers—named after the Michigan city where the Cequent brake controllers originated—have been the market leaders. Cequent's patented “smart” brake controllers automatically coordinate the towing vehicle's brakes with the trailer brakes to provide the smoothest and most efficient braking in the industry. Cequent owns many patents to its brake controller technology, including the three patents that it asserts here: U.S. Patent Nos. 6,068,352 (“the ’352 patent”); 6,012,780 (“the ’780 patent”); and 6,445,993 (“the ’993 patent”).

Hopkins is a Kansas business that began selling brake controllers in 2008—with knowledge of the three Cequent patents at issue. In fact, Hopkins worked very hard to duplicate Cequent's patent technology to sell competing brake controllers at a lower price to take market share away from Cequent. In 2013, Cequent sued Hopkins for infringing each of the three Cequent patents in this Court.

Hopkins retaliated against Cequent by buying U.S. Patent 6,837,551 (“the ’551 patent”) from an RV business. One month later, Hopkins sued Cequent on the patent in Hopkins' hometown in the District of Kansas. The USPTO has since invalidated the ’551 patent in an *inter partes* review (“IPR”) proceeding.

Hopkins also filed IPR petitions against Cequent's three patents. The USPTO denied Hopkins' petitions as to all claims in the ’352 and ’780 patents and denied the petition as to certain claims in the ’993 patent.

Hopkins originally sought to have this Court construe 47 different claim terms, which the Court required Hopkins to reduce to 10 terms. In response to Hopkins' legally erroneous constructions motivated by avoiding liability, Cequent proposes either no constructions of the terms selected by Hopkins, or alternative constructions that explain the words' true and ordinary meanings.

III. Claim construction law

A. The claims, not the specification, define patent scope.

A patent gives the patentee the temporary “right to exclude others from making, using, offering for sale, or selling the patented invention.” *Apple Inc. v. Samsung Elecs. Co.*, 809 F.3d 633, 638 (Fed. Cir. 2015) (en banc). The scope of the patented invention is determined by the patent's claims: short, numbered statements at the end of the patent. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.”). “It is the claims that define the metes and bounds of the patentee’s invention.” *Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1347 (Fed. Cir. 2009).

By statute, the patent’s specification—the text and figures that precede the claims—must describe the invention and “set forth the best mode contemplated by

the inventor of carrying out his invention.” *See* pre-AIA 35 U.S.C. § 112 ¶ 1.¹ The specification does *not* limit the metes and bounds of the invention, but merely describes certain varieties or “embodiments” of the invention. “The claims, not specification embodiments, define the scope of patent protection.” *Kara Tech.*, 582 F.3d at 1348.

Thus, it is legal error to limit the scope of a patent to the embodiments described in the specification where the claims are not so limited. *Phillips*, 415 F.3d at 1323 (“[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.”); *accord Kara Tech.*, 582 F.3d at 1345.

B. Claim terms are presumed to carry their “ordinary and customary” meaning.

Claim terms are interpreted as having the “ordinary and customary meaning,” as would be understood by a person of ordinary skill in the art question at the time of the invention. *Phillips*, 415 F.3d at 1312-13. Courts construe claims in light of the patent’s intrinsic evidence—the claims, specification, and prosecution history²—and, to a much lesser degree, extrinsic evidence, such as expert and inventor testimony, dictionaries, and learned treatises. *Id.* at 1314-17

¹ We refer to “pre-AIA” sections of the Patent Act because the America Invents Act changed certain sections of the Act effective September 16, 2012, and the pre-AIA versions apply to all of these patents since they were applied for prior to the AIA’s effective date.

² “The prosecution history is the record in the Patent and Trademark Office of what transpired during examination of the patent application.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 1003 (Fed. Cir. 1995).

(extrinsic evidence “is less significant than the intrinsic record in determining the operative meaning of claim language”).

Claim words that are common, and used consistent with their plain and ordinary meaning, typically need no specific or formal construction because the meaning is clear from the words themselves. *See Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010); *see also Biotec Biologische Naturverpackungen GmbH & Co. v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001) (affirming decision not to construe “melting” because it carried its ordinary meaning). “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314; *accord Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001) (terms that “are not technical terms of art” generally “do not require elaborate interpretation”).

As explained below, many of the terms for which Hopkins seeks constructions are comprised of everyday and easily-understood English words that need no formal construction, such as “circuit,” “sensing inclination,” “in response to,” “sending,” “signal,” “range,” “input,” and “output.” Indeed, in deciding Hopkins’ IPR petitions against each of the three Cequent patents, the USPTO’s Patent Trial and Appeal Board (the “Board”) found “specific construction of the

claims is not required” for the ’352 patent; “specific construction is required only for two claim terms” in the ’780 patent, which ironically are two terms for which Hopkins does *not* seek construction here; and specific construction is required only for one term (“operating point”) in the ’993 patent.³ Because the claim terms consist of normal English words that carry their ordinary and customary meaning, this Court need not issue any specific or formal claim construction for those terms.

C. Any disclaimer from the ordinary meaning must be “clear and unmistakable.”

A claim term must be construed using its ordinary and customary meaning unless the inventor made a “disclaimer” from that ordinary meaning. *GE Lighting Sol’ns, LLC v. Agilight, Inc.*, 750 F.3d 1304, 1309-10 (Fed. Cir. 2014). A party seeking to define a claim term narrower than its ordinary meaning through a disclaimer must evidence a “clear and unmistakable disavowal” of claim scope by the inventor in the specification or prosecution history. *Id.* If there is any ambiguity over whether a disavowal occurred or anything less than clear and unmistakable disavowal, then there is no disclaimer and the Court must apply the ordinary meaning. *See id.* (reversing limiting construction of “IDC connector” because there was no clear and unmistakable disavowal).

Although Hopkins seeks to define claim terms more narrowly than their ordinary meaning, Hopkins has not identified—and will be unable to identify—any

³ The Board decisions for each of the IPR petitions are attached as Exhibits A-C.

“clear and unmistakable disavowal” by Cequent in the patents or prosecution histories that would permit diverting from the terms’ ordinary meaning. The Court should reject each of Hopkins’ constructions accordingly.

D. The Court may not import limitations into the claims or limit them to preferred embodiments in the specification.

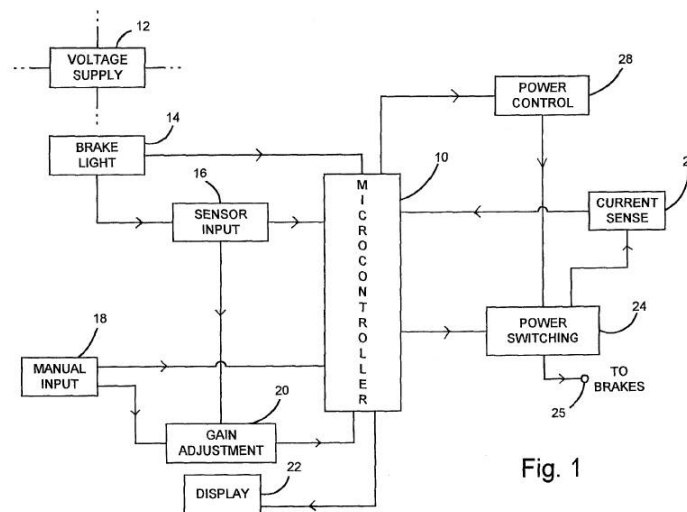
The Court may not import limitations described in the specification into the claims where the claim terms themselves are not so limited. *See Phillips*, 415 F.3d at 1323 (“we have repeatedly warned against confining the claims to those embodiments [described in the specification]”). “[O]ne of the cardinal sins of patent law . . . [is] reading a limitation from the written description into the claims.” *See id.* at 1319-20. Indeed, this was the very error corrected by the *en banc* court in *Phillips*. The original Federal Circuit panel had erred by importing *angled* baffles from the embodiment described in the specification into the “baffles” claim term. The *en banc* Federal Circuit court reversed because the claims recited “baffles” generally in accordance with its ordinary meaning, without requiring that they be “angled.” *Id.* at 1327.

Hopkins’ constructions try to import limitations into the claims—sometimes multiple limitations into one term—and should be rejected accordingly.

IV. The '352 patent

A. Background

Cequent's predecessor filed for the '352 patent on August 20, 1996. As shown in Fig. 1 below, the '352 patent claims a trailer brake controller that uses a microcontroller **10** as a brain that receives, processes, and transmits various signals to operate, adjust, and monitor a trailer braking system:



In the figure above,⁴ the microcontroller receives: (i) signals about vehicle movement and braking from an “input circuit **16**”; (ii) manually-generated signals to adjust trailer braking from a manual input circuit **18**; and (iii) information about the braking at the trailer brakes from “current sensing circuit **26**.” A key claim limitation to make all of this work is the “coupling” of the numerous discrete circuits within the system to the microcontroller. Thus, for example, claim 1

⁴ Figure 1 from the specification of the '352 patent is merely an exemplary, preferred embodiment and does not limit the ordinary meaning of the claims terms to this embodiment. (See *supra* at p. 3-4, 7.)

requires a “microcontroller coupled to said input circuit, said display circuit, said current [sensing] circuit, and to said power switching circuit.” (’352 patent, col. 39, ll. 46-48.) The microcontroller then—and this is part of the genius of this invention from 20 years ago—can analyze and process the real-time data according to programmed instructions to generate a switching control signal that will apply the optimal amount of trailer braking.

Hopkins’ brake controllers infringe at least claim 1 of the ’352 patent because those products have all of the circuits required by that claim coupled to a microcontroller for controlling the brakes on a trailer with a brake level signal.

B. “an input circuit . . .”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
an input circuit for generating a brake level signal representing the braking force to be applied by the towed vehicle’s brakes	This is a means-plus-function limitation. The patent discloses an analog circuit using a pendulum-style single axis decelerometer made of an infrared LED, a phototransistor, and a mechanical flag that modulates the LED’s light incident on the photoresistor to supply a single variable voltage to a pin of a microcontroller that directly corresponds to the magnitude of the current to be applied to the towed vehicles brakes. The function is to generate a signal that directly corresponds to the brake current amperage to be applied to the towed vehicle brakes.	No construction necessary; alternatively: an input circuit that is capable of creating a brake signal that represents the brake force to be applied by the trailer brakes.

1. The Court either should not construe this term or adopt Cequent’s construction.

The Court need not construe the “input circuit” term because the trier of fact will understand its plain and ordinary meaning, and Hopkins cannot show that Cequent changed that meaning through disclaimer. *See Biotec*, 249 F.3d at 1349 (affirming decision not to construe “melting” that had its ordinary meaning).

If, however, the Court believes a construction would help the trier of fact, then it should adopt Cequent's alternative construction. That construction is consistent with the claims and specification, which explain that the input circuit is used to create a brake signal that represents the brake force to be applied by the trailer brakes. Claim 1, for example, explains that: (a) the "input circuit" supplies a "brake level signal" to the "microcontroller," ('352 patent, col. 39, ll. 53-54); and (b) the microcontroller causes the "power switching circuit to deliver a braking current to the brakes of the towed vehicle that is related to the brake level signal," (*id.*, col. 39, ll. 48-53). This is consistent with the specification's explanation that the microcontroller "caus[es] the power switching circuit to deliver a braking current to the brakes of the towed vehicle that is proportional to the brake level signal supplied to the microcontroller by the input circuit." (*id.*, col. 3, ll. 49-56; *see also* col. 7, ll. 17-20 ("input circuit . . . signals the microcontroller to apply current to the towed vehicle's brakes if braking of the towing vehicle is of sufficient magnitude").)

Thus, it is correct to define the "input circuit" as "an input circuit that is capable of creating a brake signal that represents the brake force to be applied by the trailer brakes."

2. The Court should reject Hopkins' erroneous proposal.

Rather than define the ordinary meaning of “input circuit,” Hopkins tries to limit the two-word term with an 89-word construction and an argument that the term is means-plus-function. Hopkins' litigation-driven and lawyer-conceived argument, however, cannot prevail because “input circuit” is not means-plus-function as a matter of law.

a. The law on means-plus-function.

Most of Hopkins' constructions for the '352 patent are based on a misapplication of means-plus-function law. When invoked, a “means-plus-function” term recites a “means or step for performing a specified function without the recital of structure, material, or acts in support thereof.” pre-AIA 35 U.S.C. § 112, ¶ 6. Patentees opting for means-plus-function normally use the word “means” to signal their choice. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc). Use of the word “means” creates a rebuttable presumption that a term is means-plus-function, whereas absence of the word “means” triggers a rebuttable presumption that it is not. *Williamson*, 792 F.3d at 1348.

“When a claim term lacks the word ‘means,’ the presumption can be overcome . . . [only] if the challenger demonstrates that the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* at 1349. A claim term may

fail to recite sufficiently definite structure when it uses a generic placeholder or “nonce” word, similar to “means,” such as mechanism, element, or device. *Mass. Inst. of Tech. & Electronics for Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006) (hereinafter, “MIT”).

Even those generic terms, however, can define sufficient structure to avoid means-plus-function when, for example, other claim language further defines the generic term. *E.g.*, *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (“detent mechanism” not means-plus-function, despite “mechanism” being generic). Means-plus-function does not apply to terms that designate structure, even if that term covers a “broad class of structures.” *MIT*, 462 F.3d at 1356. Thus, terms such as “circuit,” “reciprocating member,” and “digital detector” have all been found to not be means-plus-function. *See MIT*, 462 F.3d at 1355-56 (“circuit”); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369-70 (Fed. Cir. 2002) (“reciprocating member”); *Personalized Media Communications, LLC v. I.T.C.*, 161 F.3d 696, 704-05 (Fed. Cir. 1998) (“digital detector”)

b. “Input circuit” cannot be means-plus-function.

Here, “input circuit” does not use the “means” word, so the term is presumptively *not* means-plus-function. Hopkins cannot overcome that presumption because the term recites more than enough definite structure. Indeed, every single time that a party argues that the word “circuit” is means-plus-function

to the Federal Circuit, it loses. *See, e.g., MIT*, 462 F.3d at 1355 (“In contrast to the term ‘mechanism,’ dictionary definitions establish that the term ‘circuitry,’ by itself, connotes structure.”); *Linear Tech Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320-21 (Fed. Cir. 2004) (reversing district court ruling that “circuit” terms were means-plus-function); *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003) (“interface circuit” is not means-plus-function)

If, as a matter of law, the word “circuit” standing alone defines sufficient structure, then “input circuit” most definitely connotes sufficient structure to preclude Hopkins from overcoming the presumption against means-plus-function. *See MIT*, 46 F.3d at 1355 (“the term ‘circuitry,’ by itself, connotes structure”). Plus, as in *MIT*, the claim language just after the term “input circuit” provides further structure by explaining that the input circuit’s functionality is to “generat[e] a brake level signal representing the braking force to be applied by the towed vehicle’s brake.” *See id.* (“The claim language here too does not merely describe a circuit; it adds further structure by describing the operation of the circuit.”).

Furthermore, in Hopkins’ IPR attack on the ’352 patent, Hopkins told the Board that “input circuit” is *not* means-plus-function. (*See* Hopkins IPR Petition at T 14, att’d as Ex. D.) Likewise, the Board did not construe it as such. (Institution Decision on ’352 patent at 6, att’d as Ex. A.) If the term was means-plus-function, then the Board would have said so, as it did for the “malfunction monitoring

means” term in claim 19 of the ’352 patent. (*See id.* at 6, 16-17.) The legal test for determining whether a claim term maintains the presumption against means-plus-function is the same before the Board as it is in district court. *See In re Donaldson Co.*, 16 F.3d 1189, 1194-95 (Fed. Cir. 1994) (“because no distinction is made in paragraph six between prosecution in the PTO and enforcement in the courts, or between validity and infringement, we hold that paragraph six applies regardless of the context in which the interpretation of means-plus-function language arises”).⁵

Thus, Hopkins’ admission to the Board that “input circuit” is *not* a means-plus-function term binds it here. Indeed, because Hopkins admits there is a “reasonable” construction under which “input circuit” connotes sufficiently definite structure to avoid means-plus-function, then the term must connote sufficiently definite structure to bar Hopkins from overcoming the presumption.

Lastly, claim differentiation further dictates that “input circuit” is not means-plus-function because the inventor used the term “means” in other claims, *see* claim 19. So there must be a differentiation between claims that have the “means” word, and those that do not. *See Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 972 (Fed. Cir. 1999) (“different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope”). The

⁵ *See also* Institution Decision on ’352 patent at 17, Ex. A. (applying Federal Circuit’s *Williamson* opinion, which reviewed district court decision, in IPR proceeding); MPEP § 2181 (requiring patent examiners to apply *Williamson* and other district court law to determine whether term is means-plus-function).

former is means-plus-function, while the latter is not. Indeed, the Board ruled that the “malfunction monitoring means” term in claim 19 was a means-plus-function, while it made no such finding as to the “input circuit” term that omits “means.” (Institution Decision on ’352 patent at 17, Ex. A.)

Because Hopkins cannot rebut the presumption that “input circuit” is not a means-plus-function, the Court should reject Hopkins’ construction and either not construe the term or adopt Cequent’s construction.

C. “current sensing circuit . . .”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
a current sensing circuit for sensing a level of braking current supplied to the brakes of the towed vehicle through said power switching circuit, and for generating a current level signal representing the sensed level of braking current	This is a means-plus-function limitation. The patent discloses a circuit comprising two amplifiers, and a network of resistors that sense current in the brakes of the towed vehicle and supplies a signal to a microcontroller having programming that calculates the magnitude of current in the towed vehicle brakes.	No construction necessary; alternatively: a circuit that senses the level of braking current supplied to the brakes of the towed vehicle through the power circuit, and for generating a current level signal that represents the sensed level of braking.

As with “input circuit,” this term needs no formal construction because the trier of fact will know that a “current sensing circuit” is a circuit that senses current. If, however, the Court believes a construction would help, then it should adopt Cequent’s alternative construction. That construction is consistent with the

claims, which explain that the current sensing circuit: (a) senses the “level of braking current supplied to the brakes of the towed vehicle through said power switching circuit,” (’352 patent, col. 39, ll. 41-43); and (b) “generat[es] a current level signal representing the sensed level of braking current,” (*id.*, col. 39, ll. 43-45). This matches the specification’s explanation of the “current sensing circuit” and its functionality. (*id.*, col. 4, ll. 12-18; col. 10, ll. 6-48.)

Rather than define the ordinary meaning of “current sensing circuit,” Hopkins tries to limit the term by arguing it is means-plus-function. Hopkins’ 48-word construction is incorrect for the very same reasons that the “input circuit” is not a means-plus-function limitation, namely that: (a) the term “means” does not appear, so that there is a presumption that “current sensing circuit” is not means-plus-function; (b) the Federal Circuit has consistently ruled that the word “circuit” alone connotes sufficiently definite structure, so that means-plus-function cannot apply; (c) Hopkins admitted before the Board that the word “input circuit” connotes sufficient structure, so that “current sensing circuit” too defines sufficient structure to avoid means-plus-function; and (d) under the doctrine of claim differentiation, because “means” is used to denote means-plus-function in other claims, claims without the “means” term are different and do not.

Thus, the Court should reject Hopkins’ proposal and either decline to construe the term or adopt Cequent’s proposed construction.

D. “gain adjustment circuit . . .”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
a gain adjustment circuit coupled to said manual input circuit and to said sensor input circuit for receiving brake level signals output therefrom that are indicative of a desired level of braking and for generating a gain-adjusted brake level signal in response to a brake level signal received from either said manual input circuit or said sensor input circuit.	This is a means-plus-function limitation. The patent discloses an analog circuit comprising three resistors, a capacitor, an amplifier and potentiometer that supplies a variable voltage based upon the variable resistance of the potentiometer based upon a time constant defined by the resistors and capacitor that are amplified by the amplifier. The circuit is coupled to both the manual input circuit and sensor input circuit. The function is to adjust the gain on a signal from both the manual input circuit and the sensor input circuit.	No construction necessary; alternatively: a circuit that receives input from the manual input circuit or the sensor input circuit and, in response, creates a gain adjustment brake level signal.

This term needs no construction because the trier of fact will understand that the “gain adjustment circuit” is a circuit that generates a gain-adjusted brake level signal in response to the signal from a manual or sensor input circuit because that is exactly what the claim says it is. If, however, the Court believes a construction would help, then it should adopt Cequent’s alternative construction. That construction is consistent with the claims, which explain that the gain adjustment circuit: (a) receives a brake level signal from either a “manual” or “sensor” input

circuit, ('352 patent, col. 46, ll. 4-10); and (b) in response, generates a “gain-adjusted brake level signal” that the microcontroller uses to control braking at the towed vehicle, (*id.*, col. 46, ll. 7-10, 32-39). This also matches the specification’s explanation of the “gain adjustment circuit” and its functionality. (*id.*, col. 4, ll. 1-7; col. 20, ll. 27-43)

Hopkins argument that the “gain adjustment circuit” is a means-plus-function limitation is incorrect for the very same reasons that the other “circuit” terms are not means-plus-function, namely that: (a) the term “means” does not appear, so that there is a presumption that “gain adjustment circuit” is not means-plus-function; (b) the Federal Circuit has held that the word “circuit” alone connotes sufficiently definite structure and, here, the structure is made more definite by the other words describing the “gain adjustment” operation of the circuit; (c) Hopkins admitted before the Board that the word “input circuit” connotes sufficient structure, so that “gain adjustment circuit” too defines sufficient structure to avoid means-plus-function; and (d) under the doctrine of claim differentiation, because “means” is used to denote means-plus-function in other claims, the claims without the “means” term are different and do not.

E. “said microcontroller varying the duty cycle . . .”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
said microcontroller varying the duty cycle of the pulse width modulated control signal in response to the brake level signal	Changing the percentage time the control signal is high based directly upon the variable voltage produced by the single axis accelerometer	No construction necessary; alternatively: the microcontroller changes a parameter of the pulse width modulated control signal in response to the brake level signal supplied to the microcontroller

This term is only in two of the asserted claims: independent claim 64 and claim 70, which depends from claim 64. If construction is needed, the Court should adopt Cequent’s alternative construction, for it is consistent with the claims (’352 patent, col. 48, ll. 64-66), and specification, (*id.*, col. 9, ll. 32-59; col. 20, ll. 32-46.)

There actually are three terms that Hopkins’ has identified for construction: (i) “said microcontroller,” (ii) “varying the duty cycle of the pulse width modulated control signal,” and (iii) “in response to the brake level signal.”

The parties do not dispute that “microcontroller” needs no construction, and Hopkins offers no construction of that word, so the Court may ignore it.

As to the second term—varying the duty cycle of a pulse width modulated (“PWM”) signal—courts have construed “varying the duty cycle” of a PWM as meaning “modulating the widths of pulses.” *See, e.g., Sage Electrochromics, Inc. v. View, Inc.*, No. 12-cv-06441-JST, 2014 WL 1379549, at *4 (N.D. Cal. Apr. 8, 2014), *citing Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1322 (Fed.

Cir. 2004). So, as another alternative, the Court could simply adopt that construction for the second part of this claim term.

As to the third term, “in response to the brake level signal,” Hopkins incorrectly tries to import at least three limitations into that term by requiring: (i) the brake level signal be produced by a “single axis accelerometer,” (ii) a “variable voltage” signal produced by the accelerometer; and (iii) that variances in the duty cycle be based “directly” on that variable voltage. None of those limitations are in the claims and there has been no disclaimer by Cequent.

Hopkins keeps trying to import a “single-axis” accelerometer into the claims because Hopkins uses “multi-axis” accelerometers and hopes to avoid infringement on that immaterial distinction.⁶ Hopkins’ litigation-driven construction violates claim construction law and cannot be correct. There is no reason to limit the “brake level signal” in this claim term to one produced by an accelerometer, let alone a “single-axis” accelerometer. The inventor had no need to—and, therefore, did not—disavow multi-axis accelerometers or limit the claims only to single-axis accelerometers to obtain the patent. Accordingly, the prosecution history is devoid

⁶ Ironically, obtaining a “single-axis” accelerometer construction would not excuse Hopkins’ infringement because its “multi-axis” accelerometers do use *at least* one axis, and—due the “comprising” word in the preamble—adding additional axes to an infringing accelerometer would not avoid infringement. *See Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1371-72 (Fed. Cir. 2005) (the “word ‘comprising’ transitioning from the preamble to the body signals that the entire claims is presumptively open-ended . . . [so that t]he addition of elements not recited in the claim cannot defeat infringement”). That said, there is no legal basis to limit the claims only to a single-axis accelerometer.

of any clear and unambiguous disclaimer that would limit the claims to single-axis accelerometers. It would be legal error to import that limitation into the claims.

Similarly, there is no disclaimer that would require limiting the claims to accelerometers that produce “variable voltages.” The claims themselves do not require that the “brake level signal” be a “voltage” signal, let alone that the voltage be “variable.” So this is an impermissible attempt to import another limitation that should be rejected.

Likewise, there is no legal basis for importing a limitation requiring that the microcontroller vary the duty cycle based “directly” upon a voltage signal. The Federal Circuit has specifically rejected accused infringer’s attempts to require that signals relate “directly” when the claims are not written so narrowly. In *Linear Tech*, the ITC misconstrued “monitoring the current to the load” as “*directly* monitoring current” and, thereby, excluded devices that monitor “voltage.” *Linear Tech. Corp. v. Int’l Trade Comm’n*, 566 F.3d 1049, 1059 (Fed. Cir. 2009). The Federal Circuit reversed the ITC’s construction as too limiting based on the claim language and Ohm’s Law: $V \text{ (voltage)} = I \text{ (current)} \times R \text{ (resistance)}$. The Federal Circuit explained how, based on Ohm’s law, one could monitor electrical current by monitoring voltage: “[O]nce voltage is known, one skilled in the art would recognize that Ohm’s Law easily allows current to be calculated, therefore monitoring current indirectly by monitoring voltage.” *Id.* Thus, the claims could

not be limited to “direct” monitoring of electrical current or limited to exclude monitoring of voltage.

Here the claims do not even recite “voltage,” whereas in *Linear Tech* the claims actually recited “current,” so that it would be even more of an error to require the control signal to be based “directly upon a variable voltage signal” and to exclude use of electric current. The plain language of the claims merely require that that varying occur “in response to the brake level signal,” so that the claims are written broad enough to encompass responses to that signal, regardless of whether the signal is identified in terms of voltage or current.

V. The '780 patent

A. Background

Cequent’s ’780 patent is directed to a trailer brake controller that uses two signals—an inclination signal and a deceleration signal—to determine the correct amount of braking force to apply at the trailer brakes. (’780 patent, col. 4, ll. 7-25.) By sensing inclination, the controller is able to compensate for uphill and downhill operating conditions by braking the trailer more when going downhill and less when going uphill. (*Id.*)

This result is a brake signal—which the claims call a “brake amperage output signal”—that is automatically proportional to deceleration and road incline. In fact, Hopkins’ predecessor-in-interest to the since-invalidated ’551 patent

described this two-signal feature as an “ingenious” invention. (Mar. 12, 2001 Response to Office Action, page 11, para. 7, att’d as Ex. E (“While [the ’780 patent] may be an ingenious invention . . .”).)

B. “sensing inclination”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
sensing inclination of one of the towing vehicle and the trailer	Detecting the magnitude of incline of either the towing vehicle or the trailer with respect to the horizon from a signal that is separate and distinct from a signal carrying deceleration information, the inclination signal containing no deceleration information and is not a component of a signal carrying other information, such as deceleration information.	No construction necessary; alternatively: sensing inclination of either the towing vehicle, the trailer, or both.

1. The Court should not construe “sensing inclination” or should adopt Cequent’s alternative proposal.

The trier of fact will understand the plain and ordinary meaning of “sensing inclination of one of the towing vehicle and the trailer.” Anyone who has gone up or down a hill knows what it means to be “sensing inclination.” And the trier of fact undoubtedly will know that the “towing vehicle” is the vehicle that does the towing, and the “trailer” is the thing being towed. Indeed, Hopkins admits as much

by using the “trailer” and “towing vehicle” words in its proposed construction without defining them.

The specification confirms that “sensing inclination” is used consistent with a layperson’s understanding of that phrase. The specification explains that the accelerometer senses inclination to determine whether the vehicle is going uphill or downhill. It states: “the accelerometer may be utilized to sense inclination of the towing vehicle: that is, the presence of the towing vehicle traversing an uphill or downhill grade.” (’780 patent, col. 2, ll. 4-6; *see also id.*, col. 1, ll. 34-40 (noting that controller adjusts trailer braking “in accordance with actual downhill or uphill braking conditions”); col. 3, ll. 51-55 (“Advantageously, the accelerometer 12 may be utilized to not only sense rate of deceleration . . . but also the tilt or inclination of the vehicle: that is whether the vehicle is traveling uphill or downhill”); col. 4, ll. 19-23 (“the normal brake amperage output signal for level terrain operation is modified and increased when downhill inclination is sensed and reduced when uphill inclination is sensed”).)

If a construction is necessary, it should only be to make clear that sensing inclination of the towing vehicle, the trailer, *or both* is claimed. The “or both” explanation would give effect to the “comprising” term in the preamble of the claim. If a device senses inclination of the towing vehicle—and meets the other limitations in the claim—then it infringes, regardless of what else it does. *See*

Gillette Co. v. Energizer Holdings, Inc., 405 F.3d 1367, 1371-72 (Fed. Cir. 2005) (the “word ‘comprising’ transitioning from the preamble to the body signals that the entire claims is presumptively open-ended . . . [so that t]he addition of elements not recited in the claim cannot defeat infringement”). So sensing inclination of the trailer—in addition to sensing inclination of the towing vehicle—would still infringe, so that it would be helpful to instruct the jury that sensing inclination of either “or both” would meet this limitation. This would also foreclose Hopkins from trying to confuse the jury into thinking that it does not infringe if it senses inclination of both the towing vehicle and trailer.⁷

2. The Court should reject Hopkins’ 46-word construction as legally incorrect.

Hopkins’ proposed 46-word, convoluted construction is legally erroneous because it does not define, but rather narrows, this simple two-word term. Hopkins use of 46 words to interpret “sensing inclination” confirms that its proposal would import numerous limitations into the claims that are not in that language.

First, Hopkins attempts to import a “signal” into the “sensing inclination” term. This makes no sense because the claim elsewhere identifies a “variable inclination signal,” so another “inclination signal” should not be written into the “sensing inclination” term. This would improperly add another signal limitation,

⁷ Because Hopkins’ brake controllers are mounted inside the towing vehicle, and because the towing vehicle and trailer travel over the same road, an accelerometer’s sensing of inclination of the towing vehicle would likely sense inclination of the trailer as well.

cause confusion with the other “inclination signal,” or render the other inclination signal superfluous—none of which are permitted. *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1257 (Fed. Cir. 2010) (rejecting construction that rendered claim term superfluous); *Inventio AG v. Thyssenkrupp Elevator Americas Corp.*, No. 08-874-RGA, 2013 WL 842529, at *2 (D. Del. Mar. 6, 2013) (rejecting proposed construction that includes “unnecessary examples of functions that are recited elsewhere in the claims”).

Next, Hopkins seeks to limit the “inclination signal” that it creates in its proposed construction—and which is not actually in the “sensing inclination” term—to a signal that “is separate and distinct from a signal carrying deceleration information.” So this would import yet another signal into the claims: “a signal carrying deceleration information.” This makes no sense because, if Hopkins is considering this additional signal to be a “deceleration signal”—and it appears that it is—the claim elsewhere identifies a “variable deceleration signal,” so another deceleration signal cannot be written into the “sensing inclination” term without importing an additional “signal” limitation, confusing that term with the other “deceleration signal,” or rendering the other “deceleration signal” superfluous. Again, none of these possibilities are allowed. (*See* cases cited *supra* at p. 27.)

Also, requiring that an inclination signal contain “no deceleration information” is not required by the claims, is contradicted by the specification, and

makes no scientific sense. As to the claims, the inventor made no disclaimer that would limit “sensing inclination” in this way and the claims are not limited as such. On the contrary, the claims are open-ended based on the “comprising” term in the preamble, so that a device that senses inclination infringes, regardless of what else it does and what other information it senses. *See Gillette*, 405 F.3d at 1371-72.

As to the specification, it identifies that the accelerometer can sense and report inclination or both inclination and deceleration. ('780 patent, col. 3, ll. 51-55 (“Advantageously, the accelerometer 12 may be utilized to not only sense rate of deceleration . . . but also the tilt or inclination of the vehicle: that is whether the vehicle is traveling uphill or downhill”). As to the science, and consistent with the specification, an inclination signal would necessarily carry with it some deceleration information about the vehicle’s movement because it is mounted within the vehicle (*i.e.*, where vehicle movement forces would act on it). So Hopkins’ inclination signal cannot, due to the laws of physics, have *no* deceleration information because an inclination signal is likely to carry *at least some* deceleration information as the vehicle forces act on the accelerometer simultaneous with the gravity forces.

Hopkins goes this convoluted route for the simple reason that its devices “sense inclination” and, therefore, infringe. Its own non-infringement contentions

admit as much: [REDACTED]

[REDACTED]

[REDACTED]

(2d Supp. Non-Infring. Contentions, Chart 1, page 1, att'd as Ex. F.) That is “sensing inclination,” and the Court should reject Hopkins’ improper attempt to alter reality by changing the ordinary meaning of that phrase.

C. “sending a brake amperage output signal”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
sending a brake amperage output signal	Supplying a calculated current amperage, calculated during the continuously proportioning step, to control the trailer brakes	No construction necessary; alternatively: sending an electrical signal to control the trailer brakes

The trier of fact will appreciate that sending a brake amperage output signal is simply sending an electrical signal to control the trailer brakes. This ordinary meaning is supported by the claims, which state that the brake amperage output signal is sent “to control the brakes on the trailer.” (’780 patent, col. 5, ll. 63-64.) This simple meaning is further confirmed by the specification, which describes that, in one embodiment, a microcontroller and amplifier generate a proportionate “brake amperage output signal” to control the electric trailer brakes when the deceleration and brake actuation control signals are received simultaneously. (*Id.*, col. 2, ll. 7-22.).

Hopkins' proposal incorrectly imports at least three different limitations into the claim, namely, requiring that the brake amperage output signal be "calculated," that the signal be calculated in terms of electrical "current," and that the electrical current be calculated during a "continuously proportioning step." These limitations cannot be imported into the claims because the claim language is not so limited and there's been no disclaimer that would justify adding these limitations.

Additionally, as to the electrical "current" term that Hopkins wants to import, the Federal Circuit has specifically rejected accused infringer's attempts to avoid infringement by splitting hairs over whether the voltage or current of an electronic signal is used. *See Linear Tech.*, 566 F.3d at 1059; *see also supra* at p. 22-23. Under Ohm's Law, the brake amperage output signal has both voltage and current properties, and the two interrelate. *Id.*; *see also Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1379 (Fed. Cir. 2008) ("a person of ordinary skill would know that circuitry responsive to the frequency of an AC current is interchangeable with circuitry responsive to the voltage of an AC current"). The Court should reject Hopkins' improper attempt to avoid infringement based on whether it describes an electrical signal in terms of its current or voltage.

D. “continuously proportioning . . .”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
continuously proportioning said brake amperage output signal in accordance with both said deceleration and said inclination signals	The entire time trailer braking is desired, calculating a continuous amperage of the output signal required to control the brakes based upon both the deceleration and inclination signals	No construction necessary; alternatively: continuously adjusting the signal to the brakes based on both the deceleration and inclination signals

The trier of fact will understand that to continuously proportion a signal means that the device automatically adjusts the trailer braking based on the deceleration and inclination signals. No construction is needed to explain that meaning which the words already convey. But if the Court thinks otherwise, then it should adopt Cequent’s proposed construction which—unlike Hopkins construction that adds limitations to try and get around its infringement—merely clarifies the ordinary meaning of the terms.

Cequent’s proposal is consistent with, and fully supported by, the claims and specification. The specification describes the “continuously proportioning” feature that “automatically compensates not only for changes in the rate of deceleration of the towing vehicle under braking but also appropriately increases or decreases the brake amperage control signal as required in accordance with actual downhill or uphill braking conditions.” (’780 patent, col. 1, ll. 35-40.) “More specifically,” the specification explains, “the controller is responsive to inclination and rate of

deceleration control signals received from the accelerometer and then functions to send a proportionate brake amperage control signal to control the brakes on the trailer.” (*Id.*, col. 2, ll. 10-14.)

Hopkins’ construction is legally incorrect because it imports at least two limitations not found in the claims: (i) a temporal limitation requiring that the device continuously proportion “the entire time trail braking is desired”; and (ii) a requirement that the device “calculate a continuous amperage of the output signal.” There is nothing in the claims, specification, or other intrinsic evidence requiring that the continuously proportioning occur “the entire time trailer braking is required,” and nothing in the intrinsic evidence requires that the output signal be the result of a “calculated amperage” that entire time.

Because the claims are open-ended, based on the “comprising” introduction, a device that continuously proportions at some point in time infringes regardless of what it does at other times. *See Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1345 (Fed. Cir. 2008) (reversing construction that imported temporal restraint on when one of the claimed process steps must occur). Thus, requiring that the device continuously proportion the “entire time” braking is desired is legally incorrect. Similarly, requiring that the proportioning include a “calculated amperage” is legally impermissible because the claims do not require that the proportioning occur in that way. The claims require only that proportioning occur

“in accordance with both said deceleration and said inclination signals.” (’780 patent, col. 5, ll. 65-67.)

Moreover, Hopkins’ proposed construction contradicts its own advertising that touts how it offers “proportional braking,” which “matches the braking of the tow vehicle.” (See Hopkins’ marketing for Insight controller, att’d as Ex. G.) Courts correctly reject claim constructions by infringers that contradict its own marketing that touts the presence of the infringing feature. *Feit Electric Co. v. Cree, Inc.*, No. 1:15CV535, 2016 WL 1057039, at *3 (M.D.N.C. Mar. 14, 2016) (rejecting defendants’ contorted construction of “filament shape” to avoid infringement when advertising expressly stated bulbs at issue had a “filament design” that both “looks and lights like a light bulb”). Because Hopkins has benefited from including an automatic “proportioning” feature in its products and advertising, the Court should not accept Hopkins’ invitation to legal error by rewriting the claims to change the reality that it infringes.

In sum, the Court should reject the additional limitations that Hopkins seeks to import into the “continuously proportioning” term and either not construe the term or adopt Cequent’s construction that matches the claim language and specification.

VI. The '993 patent

A. Background

The '993 patent is directed to a trailer brake controller that “automatically acquire[s] an operating point of the brake control signal” provided by an accelerometer. That “operating point” is important for sensing actual road conditions and movement of the towing vehicle, so that the trailer brakes are synchronized with the towing vehicle’s brakes, which makes for a smoother ride and less brake wear. ('993 patent, col. 2, ll. 2-6 (the processor “is configured to cause a brake output signal to be provided to the brake load responsive to the brake control signal”)); *see also* col. 6, ll. 49-63.) It also overcomes the drawback of prior art devices that required manual leveling of the device to account for mounting angle within the driver’s cab. (*id.*, col. 1, ll. 25-63.)

B. “brake control signal”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
brake control signal	an instantaneous voltage developed by the single axis accelerometer directly representing the magnitude of deceleration in the direction of travel	No construction necessary; alternatively: the signal that the accelerometer provides

This term needs no construction because the trier of fact will understand the ordinary meaning of these three everyday words: brake, control, and signal.

If construction is needed, then it should merely explain that “brake control signal” is the signal that the accelerometer provides. Indeed, Hopkins admitted that is the definition before the Board when its counsel stated: “Simply put, the brake control signal is the accelerometer output.”⁸ (Hearing Tr. (att’d as Ex. H) 27:21-22; *see also id.* 10:4-7 (“Q: So, it sounds to me like the brake control signal exists at all times. Is that correct? A: I believe that an output from the accelerometer exists at all times.”); *id.* 10:22-11:8 (“Q: Would it be fair to characterize the output of the accelerometer as it is always a brake control signal . . . ? A: I agree with everything you said”).)

This construction is also supported by the claims, which state that “the accelerometer provid[es] a brake control signal to the processor,” (’993 patent, col. 10, ll. 10-12), and by the specification that, in several different places, confirms that the “brake control signal” is simply accelerometer output: “accelerometer is coupled to the processor and provides a brake control signal to the processor,” (*id.*, col. 2, ll. 2-4), the “accelerometer provides a brake control signal that is used by the processor to determine the deceleration of a towing vehicle,” (*id.*, col. 2, ll. 59-61), and an “accelerometer U101 is coupled to the microcontroller U5 and, as is mentioned above, provides a brake control signal to the microcontroller U5,” (*id.*, col. 5, ll. 36-38). Hopkins opposes the true construction of “brake control signal”

⁸ Cequent does not object if the Court defines “brake control signal” as “accelerometer output,” based on Hopkins’ admission of that definition.

for the simple reason that its controllers infringe because they use an accelerometer to provide a brake control signal to a microcontroller.

Hopkins' complex 20-word construction of a 3-word term is wrong because it improperly imports at least four different limitations into the claims: (i) a "single-axis" accelerometer; (ii) "voltage" developed by the single-axis accelerometer; (iii) the voltage is "instantaneous"; and (iv) the voltage "directly" represents deceleration in the direction of travel. There is no support in the claims, specification, or prosecution history for importing any of these four limitations.

The claims themselves recite an "accelerometer" generally and do not limit themselves to a "single-axis" accelerometer. This contrasts with Hopkins' now-invalidated '551 patent, which claims a "multi-axis accelerometer" to overcome the single-axis accelerometers cited in prosecution before the USPTO. ('551 patent at claim 1, att'd as Ex. I.) The novelty of the '993 patent was not the style of accelerometer employed, so there was no disclaimer of accelerometers having more than one axis of sensitivity.

There likewise is no disclaimer that would limit the accelerometer signal to an "instantaneous" signal, a "voltage" signal, or a signal that "directly" represents deceleration. Importing the "directly representing . . . deceleration" limitation would contradict the specification, which explains that the brake control signal may sense deceleration *and* the mounting angle of the device within the towing

vehicle. (*See* '993 patent, col. 8, ll. 43-45 (explaining that “the output from the accelerometer may shift up or down the curve,” *i.e.*, change, “depending upon the mounting orientation of the brake control unit”). Hopkins’ proposal would also contradict the claims, as the only requirement in the claims is that the brake control signal be “provid[ed]” by the accelerometer, ('993 patent, col. 10, ll. 10-11), and that the brake output signal be “responsive to the brake control signal,” (*id.*, col. 10, ll. 12-14).

Hopkins’ importation of the “directly representing” limitation would violate Federal Circuit law that prohibits requiring that claim elements be “directly” related when that limiting word is not actually in the claims. (*See supra* at p. 22-23.) The Court should reject Hopkins’ impermissibly limiting construction.

C. “automatically acquiring an operating point”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
automatically acquire an operating point of the brake control signal	the microprocessor determines the reference level voltage of the brake control signal based on one or more voltage values obtained from a time other than during braking	No construction necessary; alternatively: a value representing accelerometer output during a period other than during a braking event

If any construction is needed, then this Court should simply adopt the Board’s construction of that term, which is what Cequent proposes. (Institution Decision at p. 6, Ex. C.) The claims support this construction because they recite

both a “brake control signal” and an “operating point” of that brake control signal, where the latter is “automatically acquired” by the processor based on “executable code.” (’993 patent, col. 10, ll. 16-22.)

The “operating point” must be something different than the “brake control signal,” for both terms appear in the claims and are described differently. *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”). Moreover, the specification explains they are different and not the same, for it always describes the “operating point” as derived from accelerometer output over a length of time, and never describes it as a single instance in time, as would be the case with a brake control signal. (’993 patent, col. 6, ll. 49-55; col. 7, ll. 8-9 & 25-26; col. 8, ll. 46-51.)

The specification further supports Cequent’s proposed construction by explaining that the “executable code . . . causes the processor to automatically acquire an operating point of the brake control signal,” (’993 patent, col. 2, ll. 6-9). Furthermore, the specification explains that, in an exemplary preferred embodiment, the microcontroller calculates a “rolling average” of the ten most recent readings from the accelerometer to set a “reference level (i.e., operating point).” This confirms that the operating point is a calculation based on readings

“during a period” of time, rather than an instantaneous reading from the accelerometer—which is nothing more than the “brake control signal” recited elsewhere in the claim.

Hopkins seeks to redefine “operating point” different from its ordinary meaning because its infringing controllers calculate an operating point based on readings from the accelerometer over a period of time—just like Cequent’s patented controllers. Its motive to redefine “operating point” to have the identical definition as “brake control signal” is to try and invalidate the patent and get a free pass on infringement. Hopkins cannot do so, however, because by defining the “operating point” as including a “single” voltage value provided by the accelerometer, Hopkins would expand the claims to include devices that do *not* acquire an operating point, but merely use the “brake control signal” as a reference point. This proposal is not supported by the claim language or specification.

Moreover, it would effectively write the “operating point” term out of the claims by equating the “operating point” with the “brake control signal,” which is not allowed. *See Texas Instruments Inc. v. I.T.C.*, 988 F.2d 1165, 1171 (Fed. Cir. 1993) (“[T]o construe the claims in the manner suggested by TI would read an express limitation out of the claims. This we will not do”); *see also Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1563 (Fed. Cir. 1991) (“Our interpretation

gives full effect to the recitation of two distinct elements in the claimed structure: linear border pieces and right angle corner border pieces.”).

Also, the ’993 patent itself acknowledges that prior art brake controllers “have also included a processor for receiving a brake control signal from an accelerometer . . . [that] has been utilized to determine when the towing vehicle was decelerating so that a brake control output” could be sent to the trailer brakes. (’993 patent, col. 1, ll. 25-32). So it would be incorrect to construe the novel “operating point” limitation as merely the “brake control signal from an accelerometer” that the ’993 patent acknowledged as existing in the prior art, which is what Hopkins proposes. *See e.g., Wang Labs*, 197 F.3d at 1383 (“claims are not properly construed to have a meaning or scope that would lead to their invalidity for failure to satisfy the requirements of patentability”); *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1556, (Fed. Cir. 1997) (the court “seeks to interpret claims to preserve, rather than defeat, their validity”). The fact that Hopkins wants to construe “operating point” in a way that would give it an invalidity defense demonstrates how it is the wrong construction. *See id.*

D. “mounted within a range of operating positions”

<i>Claim term</i>	<i>Hopkins Proposal</i>	<i>Cequent Proposal</i>
when the brake control unit is mounted within a range of operating positions	the brake control unit must be installed within a limited range of orientations in the direction of travel	No construction necessary; alternatively: when the brake control unit is mounted in a position where it operates

This term needs no construction because the trier of fact understands what it means to mount something within a range of operating positions. If construction is needed, then this Court should simply explain that an “operating position” is a position where the brake controller operates. The specification consistently describes the range of operating positions as the positions in which the brake control unit operates. (’993 patent, col. 2, ll. 6-10, 13-16; col. 4, ll. 14-26.)

Hopkins’ proposal is incorrect because it seeks to impermissibly import limitations by confining the claims to brake controllers that only function within a “*limited* range of orientations in the direction of travel.” The word “limited,” however, does not appear within the claims or other intrinsic evidence. The claim language only requires mounting within “a range” of operating positions, which can be limited or unlimited (*i.e.*, a full 360 range in that plane of travel) so long as the brake control unit is in a position to operate. Put another way, Hopkins’ proposed construction is so wrong that a user can install a brake controller in a position that operates yet somehow not meet this claim term. So the claims are broad enough to include limited or unlimited ranges.

While the specification describes a “preferred operating range” in a preferred embodiment, the specification states that such range is merely a “preferred” embodiment and that other ranges and angles may exist. (*See* ’993 patent, col. 4, ll. 12-13 (“Depending upon the application, accelerometer angles

other than forty-five degrees may prove beneficial.”); col. 9, l. 63 - col. 10, l. 4 (described embodiments “are merely for illustrative purposes and not intended to limit the scope of the invention”).)

Lastly, claim differentiation renders Hopkins’ “limited” range proposal incorrect. Claim 3, which depends from claim 1, recites “an indication when the brake control unit is not mounted within the range of operating positions.” (’993 patent, col. 10, ll. 25-27.) Therefore, claim 3 must have a limited range of operating positions in order to provide an “indication” when the unit is outside of that limited range. Because claim 1 has no such limitation, its scope is necessarily broader to include devices that have unlimited ranges of operating positions. *See Karlin Tech.*, 177 F.3d at 972.

Because the claims do not qualify “range” with the word “limited,” or exclude positions in which the brake controller can operate, the invention need not be limited to a range of operating positions, let alone a limited range “in the direction of travel.” Therefore, the Court should reject Hopkins’ limiting construction.

VII. Conclusion

For the foregoing reasons, the Court should not issue any formal claim construction of any terms or, in the alternative, adopt Cequent’s proposals.

Respectfully submitted,

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Certificate of Service

I hereby certify that on June 15, 2016, I electronically filed the foregoing paper with the Clerk of Court using the ECF system, which will send notification of such filing to all counsel of record, all of whom are registered ECF participants.

s/ Matthew J. Cavanagh
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